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R&D Money Good, Policy Isn't, Study Says

A new and unpublicized analysis by the Congressional Research Service (CRS) supports the Reagan Administration's claims of record support for research and development. But the analysis, prepared as an "anticipatory paper" for members of science-related committees, points out that defense is hogging the growth to the detriment of education and industry.

Titled "Science Policy and Funding in the Reagan Administration," the paper, dated October 7, was produced in the Science Policy Research Division of CRS, which is part of the Library of Congress. Written by Genevieve J. Knezo, a staff specialist in science policy, it is in the genre of little-known documents that quietly pass into the mainstream of Congressional thinking.

Unlike most CRS reports, which are prepared in response to Congressional requests, the science-policy

analysis was initiated in-house in the expectation of a growth of interest in its subject matter; hence the "anticipatory" label.

Written in the bland, non-partisan style characteristic of CRS reports to its sole customer, the Congress, the analysis skillfully synthesizes a wide variety of previously published materials and Congressional testimony:

"In contrast to other areas of discretionary funding which have sustained large decreases under the Reagan

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In Brief

White House Science Adviser George A. Keyworth is leading a US delegation to India this week to discuss establishment of a bi-national panel that will recommend areas for cooperative research activities. The visit is a follow-up to Prime Minister Gandhi's visit to Washington in July. It comes at a time when US-Indian science and technology relations have been wilted by differences over nuclear-proliferation safeguards.

Meanwhile, Keyworth, having last year chastised the science establishment for "tolerating mediocrity" in research, may be onto a new infirmity. In a talk October 14 to the New York Society of Security Analysts, he said, "To the discredit of those of us in government, we've managed to isolate much of the scientific community from the needs of the nation." The good news: Reagan is fixing it.

The National Science Board's Commission on Precollege Education in Mathematics, Science and Technology, one third of the way through its 18-month study of what ails these fields of education, has encountered no surprises in its inquiries, and doesn't expect to, according to someone close to the 20-member commission. Having issued an interim report, *Today's Problems, Tomorrow's Crises*, the Commission will spend the rest of its time doing missionary work to arouse public concern.

Hard Times on the Hors d'Oeuvre Scene: The annual reception of the Institute of Medicine, traditionally one of the more extravagant feeds on Washington's buffet circuit, was a bit leaner this year. Missing, for example, were the usual shrimps and oysters on the half shell, though the freshly sliced beef was still there. An official of the parent National Academy of Sciences speculated that the IoM was minding its money in a lean season for government contracts.

OSTP Studies Security Report

The Administration has responded to *Scientific Communication and National Security*—the National Academy of Sciences report on science and secrecy (SGR Vol. XII, No. 17)—by asking the White House science office to take a look at it and make recommendations by March 1.

The request is said to have originated with William P. Clark, the President's Assistant for National Security Affairs, whom the Academy brass has been sweet-talking to fend off the loonies who are trying to take hold of the issue. Though Clark dozed off several times at an Academy dinner the night before the report was publicly released, he is reported to be quite interested in the issue. He assured NAS President Frank Press that the report would not go unread at the White House, and said that he would personally bring it to the attention of Mr. Reagan.

Among those who will assist the White House science office in the study and recommendation task is Gerson Sher, manager of the US-Soviet program in the National Science Foundation's Division of International Programs. For that purpose and to attend to other duties, Sher has been detailed to the office for nine months.

Other news on the science-and-secrecy front is that the Pentagon's Research and Technical Information Office—which supplies money for university-based research and is sympathetic to the Academy's position—has ordered 350 copies of the report.

...Report Notes Heavy Military Spending

(Continued from page 1)

Administration's budget," it states, "science and technology funding, in the aggregate, has remained relatively unscathed. However, several fundamental shifts in science policy and research funding have occurred," it continues, adding, later in the analysis, that "the major US increases in the past few years have been for military, not for civilian, R&D."

Referring to Congressional testimony by Margaret Burbidge, President of the American Association for the Advancement of Science, the analysis states that "although the United States spends more than any other country in an absolute sense on the percentage of GNP that goes for R&D, if military research were factored out, the United States would spend less as a percentage of GNP than its major economic competitors. . . Japan invests only about 2 percent of its governmental R&D budget on security and defense-related R&D, while West Germany invests only about 12 percent. The United States," the CRS paper notes, "invests about 50 percent of its Federal R&D budget in security and defense R&D."

Addressing the question of whether industry's own spending compensates for government neglect of market-oriented research, the report states that while industrial spending has risen—to an estimated \$42 billion this year—the effect on R&D may be less than that huge figure suggests.

"In terms of real 1972 dollars," the report states, "this amounts to about a 4 percent increase between 1982 and 1983. However, generally US industrial research and development has been characterized as being too focused on short-term research, which leads to immediate profits, and less on long-range research and development, which together with improved management marketing strategies might enhance domestic economic productivity and give this nation a competitive edge vis-a-vis such other countries as Japan, West Germany, and France."

"Another problem," the report states, "is that instability and lack of continuity in funding erodes the infrastructure of science and technology." Citing statements made at a conference hurriedly called in Oc-

A View of the Science Adviser

From "Science Policy and Funding in the Reagan Administration," in regard to George A. Keyworth, Science Adviser to the President:

Dr. Keyworth's early tenure has been viewed with skepticism by some of his fellow scientists and members of the Administration because of his youth and relative inexperience—he is 41 and was a mid-level scientist, a nuclear physicist most recently employed as Physics Division leader at Los Alamos National Laboratory. Some have criticized him for the Administration's cuts in science and technology budgets; others have praised him for preventing budgets from being cut even more.

Ronald B. Frankum recently was confirmed as Deputy Director. Frankum had been a science adviser to President Reagan when he was Governor of California and, most recently, was deputy director of the Office of Policy Development in the White House where he coordinated the work of the various Cabinet councils in their formulation of policy. Speculation is that the appointment will make OSTP more politically astute—allegedly a missing element over the last year.

tober 1981 by the National Academy of Sciences to protest scheduled budget cuts in R&D, the CRS report advises interested members of Congress that the scientists were alarmed because the research process is especially vulnerable to abrupt financial shifts.

"At the NAS conference," it states, "it was contended that cuts in R&D would force the United States to lose leadership to its international competitors, especially in high-energy physics and astronomy. The cuts will also lead to a conservatism in funding extended projects, new programs will not be started, instrumentation will not be updated, graduate students will not be able to obtain support (which customarily is available with civilian project funding), some Federal laboratories may be dismantled."

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...The "Politicization" of Scientists

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In regard to the Administration's savaging of the National Science Foundation's science-education programs, the CRS notes that NSF "responded to wide criticism of its cutbacks in its support by creating a Commission on Precollege Education in Mathematics, Science, and Technology. . . But, in the main, concerned members of Congress have criticized the Commission, saying another report is not needed on this subject."

The report also notes, among "major issues of concern" in education that "The United States is beginning to lag behind other countries in training graduate level scientists as a proportion of the nation's population. Will the nation have sufficient scientifically trained workers to fill the job requirements of the next several decades?" it asks.

Also highly interesting in terms of what the respected CRS is telling the Congress about research-related matters is a section titled "Politicization of the Scientific Community." The message there, perhaps an exaggerated one, is that the scientists have mobilized politically to protect their take from the federal government. Thus, in reference to that October 1981 budget conference at the Academy, the report states: "Its purpose was to influence Congress and the Administration and to demonstrate the importance of scientific research to the Nation's economy and future growth. . .

"The political activities begun by the scientific community in 1981 are continuing into 1982. Several social science professional associations mounted persistent efforts to communicate to their members about how the proposed budget affected agencies from which they received the bulk of their support. These efforts are represented most visibly by the activities of the American Psychological Association and by the creation of an umbrella organization, the Council of Social Science Associations (COSSA), to maintain a conspicuous lobbying effort on behalf of the major social and behavioral research organizations.

"The Science and Technology Political Action Committee (SCITEC-PAC) was organized by several former Congressional fellows in the Spring of 1981 as a non-profit, unaffiliated, non-partisan coalition of researchers and teachers. According to *Chemical and Engineering News*, the organizers view PAC as a 'vehicle to gain access to the political process.' One of its stated aims is to inspire scientists to identify and provide financial support for 'candidates for federal public office who will work to provide a healthy and productive environment for the teaching of, and continued research in, science and engineering.'

"Some believe," the CRS analysis continues, "that

the lobbying efforts made during 1981 were effective to the extent that they helped convince the Administration to restore some funding to social science research, and held across-the-board cuts to about 4 percent, rather than the 12 percent sought by the President. However, the Administration's philosophy may have forced enduring attitudinal shifts. The American Association for the Advancement of Science summarized some of these in its study on *Research and Development, AAAS Report VII*. One is the profound change in outlook and expectations among scientists produced by cutbacks in employment and promotion opportunities in federally supported institutions (laboratories, federally funded R&D centers, and university laboratories). Another effect is the uncertainty that has come to dominate many R&D institutions, which, according to the American Association for the Advancement of Science, 'may well make the planning and conduct of federally funded research more difficult in the future.'"—DSG

("Science Policy and Funding in the Reagan Administration," is publicly available only from Members of Congress. To obtain a copy, request Issue Brief IB82108, Library of Congress, Congressional Research Service, Major Issues System.)

To the Editor

[In SGR Vol. XII, No. 15] you outlined some of the various studies going on in the Office of Science and Technology Policy (OSTP). The item concluded with a remark that the reports would not be publicly made available.

I know this is not correct in respect to my acid rain study. Our meetings will be public, like the first one, which has just taken place and a report will be forwarded.

I have just learned, quite independently, that. . . the report of the Panel on Aeronautics Research and Technology will also be public, except for those parts that are national security classified.

William A. Nierenberg
Director
Scripps Institution of Oceanography;
Chairman
Acid Rain Peer Review Panel
OSTP

Ed. Note: Of the other OSTP studies referred to in the article, we are advised that the report of the Federal Aviation Administration Panel will be made public; it's not certain whether the Federal Laboratories Panel will issue a public report, and the report of the Panel on Military Technology will be classified.

New Agriculture R&D Chief Discusses Policy

Orville Bentley, former Dean of the College of Agriculture at the University of Illinois, Urbana, is taking over as Assistant Secretary of Agriculture for Science and Education in the midst of yet another outbreak of criticisms about the quality of agricultural research. SGR discussed these with Bentley October 21, in particular, the criticisms contained in the so-called Winrock Report, Science for Agriculture, produced by a panel that met last June at the Winrock Conference Center, in Arkansas, under the sponsorship of the White House Science Office and the Rockefeller Foundation (SGR Vol. XII, No. 14). The transcript of the conversation with Bentley has been edited by SGR for brevity and clarity:

Q. The Winrock report says that large segments of the land-grant system have become intellectually isolated. Do you agree?

A. No, I don't. You know, there are many people in the land-grant system who think that some of the other areas are isolated. I've been in the university community all my life, and I've listened to this argument about who has the best research, and that this is too applied, and some other group says that we really do the real research and the real science. I've always felt that's good banter and good discussion and everybody should be proud of what area they're in. But you can have isolation from reality. For example, I came out of the chemical side—biochemistry is my background. If one started to work in chemistry, you could work your entire career and never have to think how that might relate to solving some problem out there. And I've heard some people say that their work doesn't have any practical application and therefore it's more important and more basic. But I find some of the great colleagues I know from universities, if you talk to them, they may be right out there at the very edge of biology or whatever, but most of the time they're thinking that what they're doing is going to help solve somebody's problem someplace down the road. And I guess I see agriculture more in that direction, because we've had this strong clientele relationship. Let's face it: Sometimes that relationship has helped build support for universities that has been useful. There are cases of isolation, and that's why I think we need more inter-disciplinary work, more departmental interactions. But I guess one could say that in other areas, too.

Q. Does the Winrock approach carry with it the danger of widening the distance between research and practical application?

A. I think that's the challenge to us who are trying to find the middle ground. I think there should be some

more theoretical work being done, but that doesn't mean that the more applied area isn't important. Because we do have to remember that our goal is to increase food production and to conserve resources and train people. We have to remember that people 50 years ago wouldn't believe the yields we're getting today. And I always think that the people who produced those increases came out of this system. We've got good young men and women going into the research today and I think they'll continue to make improvements, if we can help them. But that doesn't mean we should reject any evaluation of our research system. I'm pleased that there's a great concern about the quality of research.

Decline in Yields

Q. The critics say that the growth rates of yields have tapered off, that we're not getting the kind of increases that we did in the past. Is that true?

A. We've looked at the yields of some crops and they are going down. There's a limit to the genetic capacity of the plants and animals, but now we're beginning to say that with some of the new ideas maybe you can go on. I can't buy the idea that there isn't greater potential.

Q. The Winrock people would agree, but they're raising the question of whether the system is up to doing it.

A. I think the system is up to it if we can work at it. I don't think it will come automatically. We're going through quite a little change. We're bringing into the system more new young people. They're coming with different backgrounds than some of the people they're replacing, the retirees of the 1970s and 1980s.

Q. Several Congressmen have picked up the Winrock themes and have held or are going to hold hearings.

A. They read these reports, and they're concerned about agriculture. They want to talk about it to get views from a wider variety, perhaps a different group of people. I take this as an opportunity to help answer some of the questions. And if there are things that are fundamentally wrong, then we can work out a plan for improving it. I think that sometimes various issues get to be good things to publicize and talk about, as you know. But I wouldn't impugn anybody's integrity or anybody's motives. I think there will be more questions and perhaps that's good. Perhaps that will lead to a better understanding of the total issue.

Q. How do you react to suggestions that agriculture research should adopt the organizational structure of the National Institutes of Health?

A. I'm pretty lukewarm to moving in this direction. I can envision certain adaptations, but I think it would be
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...Cool Toward New Organizational Setup

(Continued from page 4)

difficult to create such an organization because of the multiplicity of [agricultural] problems and the variability of the problems. I may be reflecting my university biases, but I think we need more interaction and more multidisciplinary work at, let's say, a university level or within the Agricultural Research Service, rather than creating another new organization.

Q. So you think the basic organizational structure is satisfactory?

A. Yes, with some changes. Someone has to take a look at our organization at the national level and the Agricultural Research Service (ARS). They're asked to cover too many bases in too many different areas. Let them concentrate, perhaps, in some of the long-term, high-risk areas. A good example is some of the cross-breeding and development of cattle—projects that take 25 years to make progress, and it often takes large numbers of animals and large amounts of space. ARS has one such facility, and I think we ought to say, that's the program, everybody doesn't have to attempt to duplicate it or attempt to do little pieces of it. Let's really put the effort behind that and see if we can change the genetic background of those cattle and come up with improved breeds or improved systems of management of cattle.

Competitive Grants

Q. Do you accept the criticism, then, that the ARS centers overlap with local and regional laboratories?

A. The answer to that is yes and no. There's a limited amount of overlapping that comes from tradition and perhaps we haven't been able to phase it out for all kinds of reasons, internal and external. But, in any case, there's some reason for it. But I feel that the overlap is not quite as much of a problem as some people feel. It's very hard not to have some duplication in agriculture, when you think of its geo-climatic relationships, its different rainfall situations, and the fact that we're out to maximize our efficiencies and opportunities wherever we might be located.

Q. What about competitive grants?

A. I see merit in competitive grants, but I go right along in saying that I'm a strong believer that the formula funding has been a great help to us because it's given us the continuity factor in areas that, from the science standpoint, are just a little less glamorous than some, but are still part of the bread-and-butter issue that the farmer and rancher across this country talks about. We need the continuity, but I think of the competitive grants as an enriching program to target in. But I'm not worried about who does it, or those kinds of questions that some seem to raise.

"Winrock" on Leadership

The following excerpts are from the "Winrock" Report, Science for Agriculture.

The tendency of scientists outside the agricultural research establishment to treat agricultural scientists as something other than equals (witness the relatively small number of agricultural scientists in the National Academy of Sciences) creates additional barriers to institutional change and accommodation and to the application of all appropriate scientific resources to the solution of problems in agriculture...

...1) there is a critical need for more high quality, perceptive leaders of national stature in agricultural research; and 2) it is unclear who represents and can speak for the various components of the agricultural research system. The resulting leadership vacuum leaves agricultural research with inadequate, confused, and often contradictory representation at the national level....

Another criticism of the system is its perceived inability to address, in a coherent manner, truly national issues. This is traceable to: 1) a diversity of state experiment stations with their necessary principal focus on state and local problems; and 2) a USDA so constrained by Congressional political priorities and by Executive Branch budget, personnel, and management restrictions that it cannot exert real leadership in determining national scientific needs and priorities and in focusing the energies of its laboratory system on meeting those needs and priorities.

(Copies of *Science for Agriculture*, 34 pages, are available without charge from the Office of Science and Technology Policy, Executive Office Building, Washington, DC 20500.)

Q. How much money for competitive grants would you like to see available?

A. We need to get increases in total support. I think the competitive grants program has to grow. And right away the question comes if it should be at the expense of all the others. That's one I don't want to get into at this time. But I don't think we should reduce the others for that. I think that competitive grants should be in there for specific targeted areas. But we don't have the funds to go at some of the basic research questions with the magnitude that's required. I think that's got to be expanded, and that's going to be one of the goals that I have—to try to expand the funding of that, without get-

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...Some Duplication Can be Reduced

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ting into the question of percentages or shares.

Q. You wouldn't cut any existing program for the benefit of competitive grants?

A. (Pause) Well, I would hope that we wouldn't have to cut programs, that is, from the formula side. We don't decide the program out in the states. The states decide it, and they're putting in probably three to four dollars [for each federal dollar]. It would be very difficult to say you're going to cut programs in the state systems and move it from one to the other. Now, what you can say, though, is that through our Joint Council and various kinds of things that the Congress has mandated, we could do a better job of setting the priorities, and we could make some hard decisions on cutting off some of the areas that are less productive. Perhaps we shouldn't even use the words "less productive." Rather, let's say those areas that perhaps can be covered in some other state. Not every state needs to do as many things as they're doing. And they might be more willing, perhaps, to find out ways to adapt the knowledge from different areas. In Illinois, for testing of soybean varieties and yields, we relied on Indiana for the southern part of the state. That cut down on a lot of these expensive plot tests. Perhaps as we talk on priorities and face some budget realities, we might find more ways to work together. One thing we'll have to do: We may have to begin to focus more—in describing our programs to our users—on the science side rather than perhaps on the commodity side. So much has been related to commodities because the people that grow the crop or the livestock think of it as a commodity. And we in science, perhaps, should be thinking more in terms of the scientific dimension.

Secretary Supports R&D

Q. Did the Secretary of Agriculture have any marching orders before you took the job?

A. No, not yet, at least. I think I had a very good understanding with Secretary Block, because we talked about this before. He's from Illinois, and he was Director of Agriculture, but I'd known him before as a farmer. But I'd like to point out that my involvement at this time comes in part from recommendations coming through the land-grant college association. His statement to me that gave me the most encouragement was that he believed in a strong agricultural research and extension program, and that it was one of the goals of this Department. I don't know the history of this Department, but I don't recall in recent years quite as clear a statement being made about such a high priority. I just thought I had an understanding, without having to say the exact words.

Q. Overall, how do you regard the Winrock recommendations?

A. There are many things in the report that point out the success of the system. But then it makes some recommendations on things that we should consider. I take it in a positive way by saying that recommendations from a group like that would be given attention and where it's got merit, we'll try to incorporate that into our planning process. There are other reports. All of these have merit. Some we can do something about. Some would require legislation. Some would require actions that have implications for states. If you want to close something out in some state, for example, there's a strong battle to be taken in there, because that particular activity may be something that they think is very important to the future of their state.

Mediocrity

Q. When George Keyworth first arrived here as the President's science adviser, he said that a lot of mediocrity has been tolerated in American research and that we should get rid of it and redeploy the resources to first-class institutions and people. Would you say that applies to agricultural research?

A. Well, yes, I suspect that in agricultural research as in any other, there's a certain amount that didn't turn out to be quite as exciting and as productive as one had thought. I'd have to agree with that. But the thing in agricultural research that is perhaps different and that is implied in your question is that if we just concentrate these into large units that are centrally operated, we're going to come up with a better answer. I have reservations about this, especially in agriculture, where you have so much diversity. The quality factor is very important, and that's one that we're working on, but you have more problems with that when you have a diffuse system with all different kinds of institutions involved. The quality factor is important. What's equally important is to be sure we retain the capacity to do research on a wide range of topics, because it's hard for us to anticipate what our problems are going to be five years from now.

Q. It's often said that the agriculture research budget has become a pork barrel for Congress. Do you share that view of it?

A. When you get to the basic support for the block grants and the competitive grants, I don't think that's an issue. Where the question comes up is on the location of facilities. And that does reflect Congressional interest. We as public servants have to work with what we're told we have. Sometimes I think it's perhaps a little unfortunate in this regard. But I don't know if we

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Tobacco Pushers Dodge Some Pesky Questions

For fork-tongued virtuosity in the tough Washington league, the Tobacco Institute long ago cinched hall-of-fame status. But like all true champions, the lobbying front for the tobacco industry never lets up, as can be seen from some enchanting correspondence that was recently supplied to SGR.

The correspondence is between Elizabeth M. Whelan, Executive Director of the American Council on Science and Health, and Horace Kornegay, Chairman of the Tobacco Institute. The Council, established in 1977, describes itself as a health-oriented "national educational association."

Last August 26, Whelan, who holds a doctorate from the Harvard School of Public Health, noted in a letter to Kornegay that the cigarette industry has consistently taken the position that the alleged links between cigarette smoking and disease were unproven. "We would be most appreciative," she continued, "if you or a member of your staff could advise us of the tobacco industry's product safety criteria and answer the following questions:

- "A. What type of evidence would the Tobacco Institute accept as reasonable proof that smoking cigarettes significantly increased the risk of disease?
- "B. What evidence would convince the tobacco industry that its product was hazardous to human health?
- "C. What research methodology or methodologies would the Tobacco Institute suggest to collect the type of data which would generate answers to questions A and B?
- "D. Finally, what action would the Tobacco Institute and the various tobacco companies take if proof of cigarettes' hazard to health were obtained."

A month later, with no reply having arrived, Whelan repeated the letter to Kornegay and sent nearly identical letters to the top officers of the five major American cigarette companies.

Kornegay replied, in a letter dated October 14, which, after invoking "press of important business" as the cause of delay, went on to state:

"Your position regarding tobacco, most recently expressed in your statement to a House subcommittee [hearing on cigarette labeling], is abundantly clear and, all things considered, highly predictable. Consequently, no purpose would be served by engaging in a dialogue with you on scientific standards, methodology, criteria of proof and so forth. These important issues can only be resolved within the framework of our democratic system."

When SGR asked a Tobacco Institute staff member why Whelan's questions had gone unanswered, the unattributable response was that, obviously, she was

just trying to stir up trouble. For the record, the Institute man said that "If the questions came from a less-committed source, there might be a different response."

In any case, since the Tobacco Institute has suggested that the same questions from a "less-committed source" might get a relevant response, SGR suggests that readers weigh and perhaps act on that possibility. Address: Horace R. Kornegay, President, The Tobacco Institute, 1875 I St. Nw., Washington, DC 20006; tel. (202) 457-4830. If you write and get an answer, let us know.

The American Council on Science and Health is located at 1995 Broadway, New York, NY 10023; tel. (212) 362-7044.

An irony in the Council versus the Institute is that Nader-style public-interest health groups consider the American Council on Science and Health not one of them. The Council, according to Whelan, derives about one-third of its current \$750,000 annual budget from "food, chemical, and pharmaceutical companies and foundations," with a limit, she said of \$10,000 from any one source. The balance is mainly from general foundations and some \$60,000 is provided by public contributions, she stated. A large and diverse "Board of Scientific Advisers" is listed on the Council literature.

In the past, the Council has often disputed and scoffed at food-additive health scares, and thereby has drawn fire from the Center for Science in the Public Interest, an independent consumer-oriented group.

AGRICULTURE

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will change the system too much in that sense. But I haven't thought that in the basic program we've had too much of a problem. A few times we had earmarking of funds—that was 10 or 15 years ago—and many of us objected to that, particularly from the states. We said that it created all kinds of problems for us in managing our resources. And it led to distortions. But we have very little of that now. I think that reflects a pretty statesmanlike approach of the Congress.

Q. Do you feel that some of these reports aren't as sophisticated as they might be?

A. They are often dealing with a segment of a total and perhaps are presenting one viewpoint. Let's take as an example that there's an assumption that there's not enough basic research. One can develop a scenario along this line. But then, there are a lot of ranchers and farmers that can come to it and say that there's not enough applied research being done. One of our big concerns is that we don't want to see universities or laboratories get so isolated that they're just doing basic research. We've got to find the balance in between.

Engineering Academy Hunts for New Chief

Martin Goland, President of the Southwest Research Institute, has been named Chairman of a five-man search committee for a successor to Courtland D. Perkins, President of the National Academy of Engineering.

Perkins delayed his retirement to June, a year later than originally scheduled, to give the mandarins of the NAE extra time to sort out their differences over whether an academic or an industrial engineer should head the organization. In the meantime, the NAE has created a new post somewhere around the top, Chairman of the NAE, which has been assigned to Stephen D. Bechtel Jr., of the namesake construction firm (SGR Vol. XII, No. 15). What all this means, no one can explain, least of all the puzzled onlookers at NAE's parent organization, the National Academy of Sciences.

Hearing Set on National Labs

Federal policy for the national laboratories will be the subject of a hearing December 2 before the Energy Development and Applications Subcommittee of the House Science and Technology Committee. The Subcommittee, chaired by Rep. Don Fuqua (D-Fla.), who's also chairman of the full S&T Committee, will focus on a review of the labs conducted by the Department of

Energy's Energy Research Advisory Board. Witnesses will include Louis Roddis, Chairman of the Board, and W. Kenneth Davis, Deputy Secretary of DOE.

NSF Gets Budget Increase

The National Science Foundation bucked the budget trends this year, coming out of the long appropriations process with \$1.092 billion—\$20 million more than the President's requested, and about \$100 million above the fiscal '82 budget. The bill includes \$30 million for science education, double the amount sought by the Administration.

Stockpile Under Study

The White House Science Office has announced two "pilot studies" to examine the quality of materials in the National Defense Stockpile, a vast hoard of minerals, metals and other materials that the government stashed away at some 100 locations, most of it over 20 years ago.

The American Society for Metals has been given a \$50,000 contract to assess the quality and form of cobalt now in the stockpile. The National Materials Advisory Board of the National Research Council was awarded a contract for \$57,000 to examine which other materials should have quality assessments.

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